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OHIO AND U.S. AGRICULTURE

A COMPARISON BASED ON 1982 AGRICULTURAL CENSUS DATA

by

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Diversity is often the one word used to characterize U.S. agriculture. This diversity results in part from the agronomic, climatological, and topographical diversity of the U.S., and in part from its technological and economic wealth. Agronomic, climatological, and topographical diversity creates many different ecological habitats; technology permits these habitats to be exploited; and economic wealth allows differences in consumer tastes and preferences to be expressed as effective demand for the variety of farm products which can be produced.

Given the diversity of U.S. agriculture, it is often useful to determine where differences and similarities exist between the agriculture of a given state and U.S. agriculture taken as a whole. This article presents such a comparison for Ohio. The comparison is based primarily on the 1982 Census of Agriculture, but for selected characteristics is supplemented by data from previous Censuses of Agriculture.

Economic vs. Physical Characteristics of Farms

The physical diversity and size of the U.S. implies that the farming system best suited to different geographical regions often varies significantly. In addition, free trade within the boundary of the U.S. permits these regions to specialize in the farming system for which they have a comparative advantage. The result is that differences between physical characteristics of

farms in different states (such as crops grown and acres per farm) can be pronounced.

Free trade, however, has a second impact: over time factors of production become distributed in such a way that they tend to earn equivalent rates of return in different uses after taking into account transportation costs. Consequently, average economic characteristics of farms, such as value of sales per farm, should differ less among states than physical characteristics of farms. Therefore, the average physical characteristics of Ohio farms should vary more from the national average, which are a composite of the diverse states, than should the average economic characteristics of Ohio farms.

Farm Sales by Commodity

In 1982, Ohio farmers produced all major crops and livestock except cotton (Table 1). A greater share of Ohio agriculture's cash receipts were generated from crops than for U.S. agriculture (55 vs. 47 percent). Corn and soybeans accounted for slightly more than 40 percent of Ohio cash receipts but only 18 percent of U.S. cash sales. The only other crops of greater importance to Ohio than the U.S. were nursery and greenhouse products.

The relatively greater dependence of Ohio agriculture on crops compared with U.S. agriculture dates only from the 1969 Census of Agriculture (Figure 1). Furthermore, while the share of cash receipts for the U.S. generated by crops has exhibited no trend since 1930, the share of Ohio cash receipts generated by

crops has increased markedly--from 30 percent in 1930 to 55 percent in 1982.

Turning to the livestock sector, dairy products and hogs and pigs generated a greater share of Ohio's farm receipts than they did for the nation. However, the biggest difference was the substantially smaller share of farm sales accounted for by cattle and calves in Ohio (11 vs. 24 percent). Given the relative decline of the livestock sector, it is not surprising that Ohio's share of the national inventory of major livestock categories has also declined since 1930 (Figure 2).

The long-term trends suggest that Ohio's comparative advantage has shifted from livestock to crops. One factor in this shift has probably been construction of the interstate and intrastate highway systems. These systems have increased the access of Ohio's farmers to the state's urban areas. Along with the associated development of industries in rural areas, the improved road network allowed Ohio farmers to complement their crop enterprises with off-farm employment instead of livestock. In contrast, for farmers in the less urban states west of the Mississippi, off-farm work is not as available. Livestock therefore becomes the second family enterprise, both to increase farm family income and to provide cash flow for the crop enterprises.

Physical Characteristics

On a per-farm basis, Ohio farms averaged 177 acres of all land in farms while the national average was 416 acres (Table 2). The proportion of farms with less than 50 acres of all land in farms was essentially the same for Ohio and the U.S. The share of Ohio farms in the 50-139 acre category was substantially greater while the share in the 500-999 acre and larger categories was substantially smaller than for the U.S. Farms with 2000 or more acres had the largest share of farm acreage nationally, but the smallest share in Ohio.

The average Ohio farm, as measured by all land in farms, has historically been smaller than the average U.S. farm (Figure 3). However, since 1935, when the trend to larger farms became apparent, average size of farm has increased proportionally more nationally than in Ohio. Before 1935, average land in farm per Ohio farm was approximately two-thirds the average per U.S. farm. By the 1982 Census of Agriculture this ratio had declined to about two-fifths.

A reason for the smaller absolute size of Ohio farms, as measured by land in farms, is that precipitation is relatively plentiful and well distributed in Ohio. Thus the land can be farmed intensively. In contrast, much of the land in the semiarid West, unless irrigated, is suited only for extensive livestock grazing. Therefore, compared with the U.S., a higher proportion of Ohio farmland is cropland, 77 vs. 48 percent. Furthermore, the average acres of cropland per farm reporting cropland is much

nearer the national average, 144 vs. 221 acres, than for land in farms.

Unsurprisingly, a smaller percentage of Ohio's harvested cropland in 1982 was irrigated (0.3 vs. 13.6 percent). Also, the proportion of Ohio farms which hired labor was smaller, 32 vs. 39 percent. Lastly, about 41 percent of both Ohio and U.S. land in farms was rented or leased by farm operators.

Economic Characteristics

Ohio farms averaged a lower value of sales per farm than did the nation's farms, $38,899 vs. $58,764. As with the distribution for land in farms, relatively fewer Ohio farms were in the larger size categories. However, as expected, comparison of the distribution of farms by value of farm sales with the distribution of farms by land in farms reveals that the Ohio and U.S. distributions were more similar on the economic than on the physical measure. Furthermore, the average value of sales for Ohio farms was 66 percent of the corresponding U.S. average compared with the Ohio average being only 42 percent of the U.S. average for land in farms per farm.

Given that a higher proportion of Ohio's land in farms is cropland, it was not surprising that average value of land and buildings per acre was higher in Ohio than the U.S. ($1,503 vs. $819). Consequently, while land in farm per Ohio farm averaged only two-fifths the national average, average value of land and buildings per Ohio farm was about four-fifths the national

average. Value of machinery and equipment averaged approximately $40,000 for both Ohio and U.S. farms.

Just as for land in farms, average value of farm products sold per farm has grown proportionately more for the U.S. than for Ohio (Figure 4). In fact, during the 1930's the two averages were almost the same.

Socioeconomic Characteristics of Farm Operators

Ohio farm operators were younger and more likely to live on the farm they operated, to be male, to be organized as partnerships rather than family-held corporations, and to be employed off the farm. However, the differences were small. Almost no difference existed in the distribution of operators by tenure. Whereas only 3.1 percent of U.S. farm operators were Spanish or black and other minorities, the proportion for Ohio was even lower, 0.6 percent.

Summary

Ohio's agriculture, which was once dominated by livestock, generated more of its cash receipts in 1982 from crops, both in an absolute sense as well as relative to U.S. agriculture. As concerns specific commodities, a much greater share of cash receipts in Ohio agriculture came from corn and soybeans than for the nation. In contrast, the share earned from beef was much smaller in Ohio.

On average, Ohio farms were smaller than for their national

counterparts. In particular, Ohio farms were more likely to be in the small-to-medium size categories. As expected, the differences between averages for Ohio and U.S. farms were greater for physical characteristics than for economic characteristics.

Despite these differences, Ohio farmers produced all major crops and livestock except cotton. Also, little difference existed between the average socioeconomic characteristics for Ohio and U.S. farm operators. Thus, taken as a whole, Ohio agriculture appears to be a fairly representative microcosm of U.S. agriculture.

TABLE 1. DISTRIBUTION OF FARM SALES BY COMMODITY
Ohio and United States, 1982[a]

COMMODITY	OHIO	U.S.
	- - - percent - - -	
CROPS	55.1	47.4
Corn for grain	21.5	10.3
Soybeans	19.0	7.9
Wheat	4.2	5.9
Other grains	0.6	3.6
Cotton and cottonseed	0.0	2.5
Hay, silage, and field seeds	1.2	1.8
Tobacco	1.1	2.1
Fruits, nuts, and berries	0.8	4.4
Nursery and greenhouse products	4.3	2.9
Vegetables, sweet corn, and melons	2.1	3.2
Other crops	0.3	2.8
LIVESTOCK AND LIVESTOCK PRODUCTS	44.9	52.5
Cattle and calves	11.0	24.0
Dairy products	16.0	12.0
Hogs and pigs	10.9	7.5
Poultry and poultry products	5.5	7.4
Sheep, lambs, and wool	0.4	0.5
Other livestock and products	1.1	1.1

[a]Excludes abnormal farms, which include institutional farms, experimental and research farms, and Indian reservations.

SOURCES:

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-United States: Summary and State Data. Volume 1, Part 51, AC 82-A-51. October, 1984.

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-Ohio: State and County Data. Volume 1, Part 35. AC 82-A-35. April, 1984.

TABLE 2. SELECTED PHYSICAL CHARACTERISTICS OF FARMS
Ohio and United States, 1982[a]

CHARACTERISTIC	OHIO	U.S.
Number of farms	86,897	2,239,300
Total acres of land in farms	15,371,527	932,094,559
Average acres of land in farms per farm	176.9	416.2
Proportion of land in farms which is cropland	76.8%	47.7%
Average acres of cropland per farm reporting cropland	143.9	221.2
Proportion of land in farms rented or leased	41.4%	41.0%
Proportion of harvested cropland irrigated	0.3%[b]	13.6%
Proportion of farms which hired labor	31.6%	38.8%
Distribution of farms by land in farms:		
1-49 acres	28.8%	28.5%
50-139 acres	32.9%	24.1%
140-259 acres	18.6%	17.1%
260-499 acres	12.2%	14.1%
500-999 acres	5.9%	9.1%
1000-1999 acres	1.4%	4.3%
2000 acres or more	0.2%	2.9%
Distribution of land in farms by land in farms:		
1-49 acres	3.6%	1.4%
50-139 acres	16.5%	5.1%
140-259 acres	19.9%	7.8%
260-499 acres	24.4%	12.1%
500-999 acres	22.2%	15.1%
1000-1999 acres	10.5%	14.2%
2000 acres or more	3.0%	44.3%

[a]A farm is defined as any place from which $1000 or more of agricultural products were sold or normally would have been sold during the census year. Excludes abnormal farms: institutional farms, experimental and research farms, and Indian reservations.

[b]Includes abnormal farms, which numbered 37 in Ohio.

SOURCES:

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-United States: Summary and State Data. Vol. 1, Part 51. AC82-A-51. October, 1984.

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-Ohio: State and County Data. Vol. 1, Part 35. AC82-A-35. April, 1984.

TABLE 3. SELECTED FINANCIAL CHARACTERISTICS OF FARMS
Ohio and United States, 1982[a]

Characteristic	Ohio	U.S.
Value of farm products sold	$3.38 Billion	$131.59 Billion
Average farm sales per farm	$38,899	$58,764
Average value of land and buildings per farm	$267,249	$341,230
Average value of land and buildings per acre	$1,503	$819
Average value of machinery and equipment per farm	$39,368	$41,856
Distribution of farms by farm sales categories:		
Less than $10,000	49.7%	49.0%
$10,000-19,999	14.1%	11.6%
$20,000-39,999	12.3%	11.1%
$40,000-99,999	13.7%	14.9%
$100,000-249,999	7.9%	9.6%
$250,000-499,999	1.7%	2.6%
$500,000 and more	0.5%	1.2%
Distribution of farm sales by farm sales categories:		
Less than $10,000	4.5%	2.7%
$10,000-19,999	5.2%	2.8%
$20,000-39,999	9.0%	5.4%
$40,000-99,999	22.7%	16.4%
$100,000-249,999	30.7%	25.0%
$250,000-499,999	14.4%	15.1%
$500,000 and more	13.6%	32.5%

[a] A farm is defined as any place from which $1,000 or more of agricultural products were sold or normally would have been sold during the year. Excludes abnormal farms: institutional farms, experimental and research farms, and Indian reservations.

SOURCES:

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-United States: Summary and State Data. Vol. 1, Part 51. AC82-A-51. October, 1984.

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-Ohio: State and County Data. Vol. 1, Part 35. AC82-A-35. April, 1984.

TABLE 4. SELECTED SOCIOECONOMIC CHARACTERISTICS OF FARM OPERATORS
Ohio and United States, 1982[a]

CHARACTERISTIC	OHIO	U.S.
Average age of operators (years)	49.8	50.5
Proportion of operators who are women	4.3%	5.4%
Proportion of operators who are Spanish, black, and other minorities	0.6%	3.1%
Proportion of operators for whom farming is principal occupation[b]	49.6%	55.1%
Distribution of operators by residence:		
On-farm operated	75.7%	70.6%
Not on-farm operated	15.7%	19.1%
Not reported	8.6%	10.3%
Distribution of operators by days worked off farm:[c]		
None	34.6%	38.4%
1-99	9.2%	10.0%
100-199	8.5%	8.4%
200 or more	40.7%	34.6%
Not reported	6.9%	8.6%
Distribution of operators by tenure:		
Full owner	59.5%	59.2%
Part owner	29.2%	29.3%
Tenant	11.3%	11.6%
Distribution of operators by farm organization:		
Individual or family	86.2%	86.9%
Partnership	11.5%	10.0%
Family-held corporation	1.6%	2.4%
Other corporation	0.3%	0.3%
Others[d]	0.3%	0.5%

[a]Operator characteristics are for senior partner or person in charge. Excludes abnormal farms: institutional farms, experimental and research farms, and Indian reservations.

[b]Farming was principal occupation if operator spent half or more of his/her worktime in farming or ranching.

[c]A day worked off the farm meant the operator worked at least four hours off the farm.

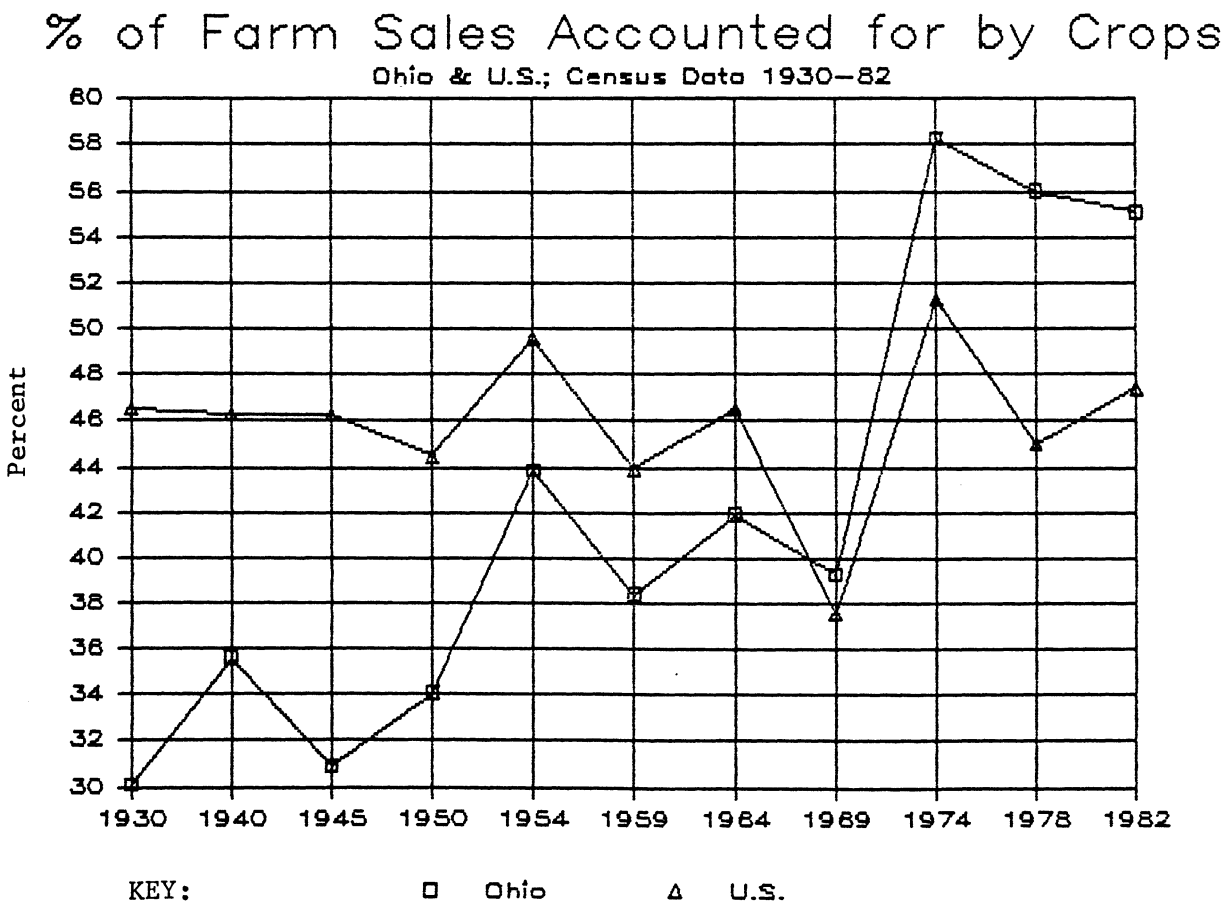
[d]Includes cooperatives, estates, trusts, insitutional farms, etc.

SOURCES:

U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-United States: Summary and State Data. Volume 1, Part 51. AC 82-A-51. October, 1984.

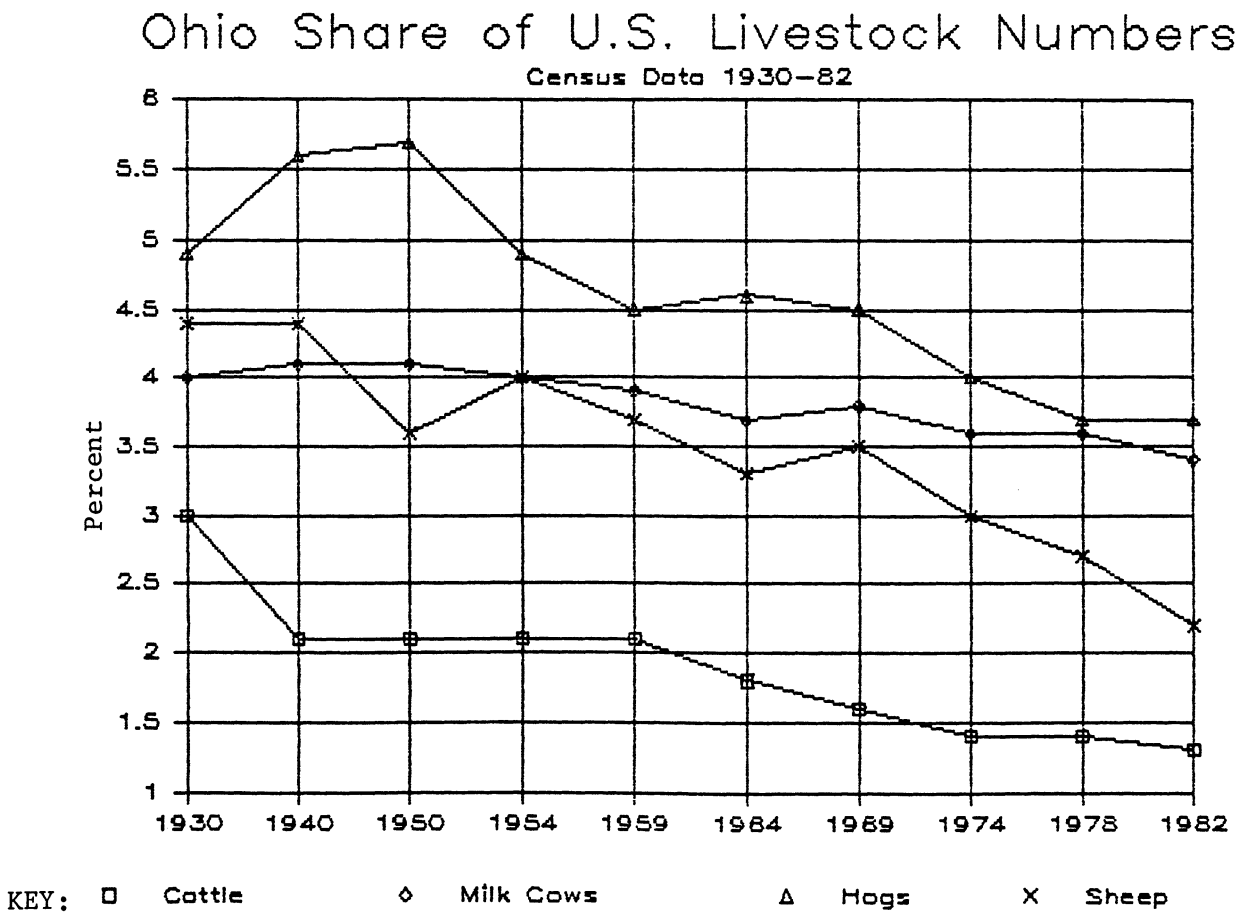
U.S. Department of Commerce, Bureau of the Census. 1982 Census of Agriculture-Ohio: State and County Data. Volume 1, Part 35. AC 82-A-35. April, 1984.

FIGURE 1



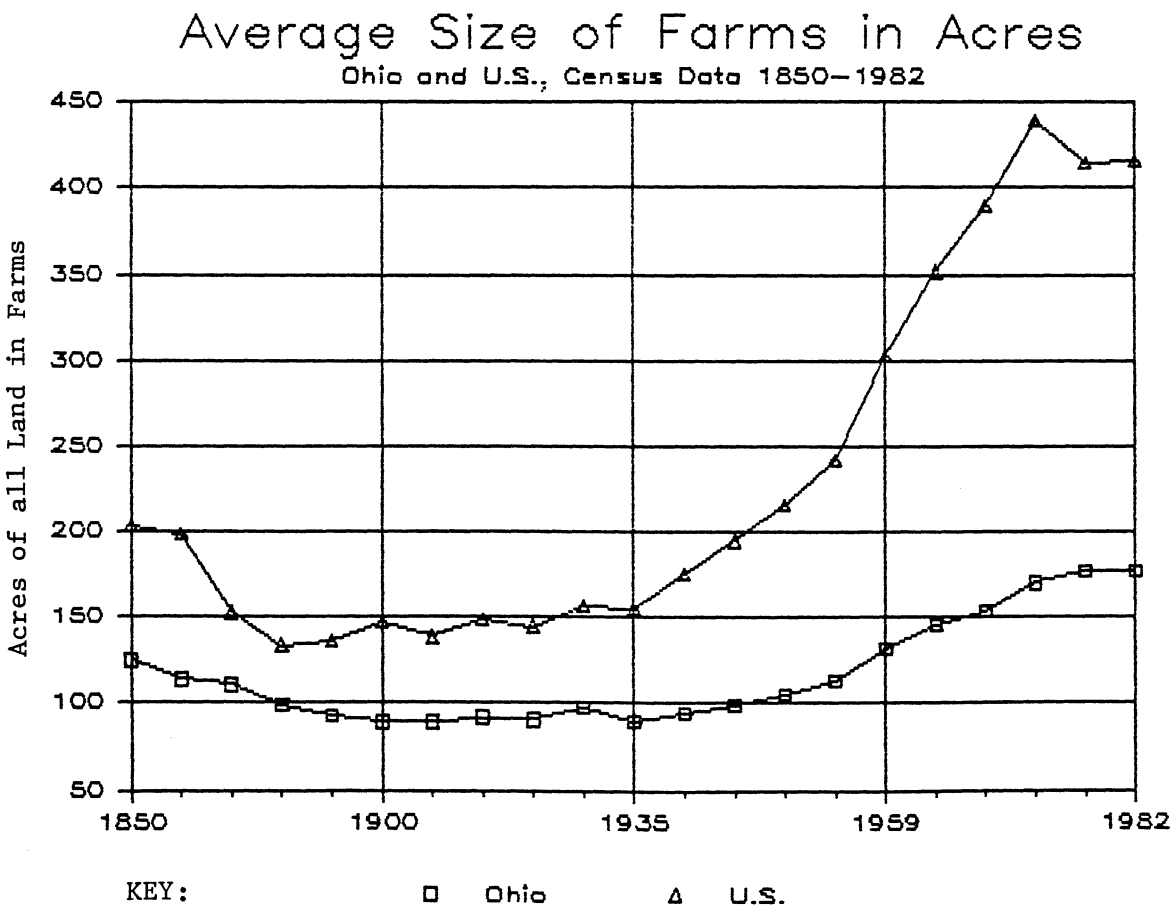
SOURCE:
U.S. Department of Commerce. Census of Agriculture (for each of the years included in Figure 1).

FIGURE 2



SOURCE:
U.S. Department of Commerce. Census of Agriculture (for each of the years included in Figure 2).

FIGURE 3



SOURCE:
U.S. Department of Commerce. Census of Agriculture (for each census year).